

**U.S. PATENT APPLICATION
FOR
HERMETIC WIPE CONTAINER**

Inventors: Jon C. Alexander
Tarry P. Zielinski

HERMETIC WIPE CONTAINER

CROSS REFERENCE TO RELATED PATENT APPLICATIONS

[0001] This application is a continuation-in-part of prior Application No. 10/229,913 filed August 28, 2002.

BACKGROUND

[0002] The present application relates to a container configured for holding wipes and, more particularly, to a hermetic storage system for holding wipes at least partially saturated with a liquid solution in a hermetically sealed environment.

[0003] Conventional wipe container systems exist for holding both dry and wet wipes. The wipes may be used as baby wipes, household sanitizing wipes, moisturizing wipes, personal cleansing wipes, and wipes for other general purposes. Wipe container systems provide the consumer with an efficient and convenient way to change a baby's diaper, clean up spills, sanitize surfaces, and to address any other situation normally requiring a cloth and cleaning solution.

[0004] Traditional wipe container systems usually include a container for storing wipes and a platform or lid which is often attached to the container. Generally the lid can be positioned in an open position to allow access to the wipes, or the lid may be placed in a closed position relative to the container to provide an enclosed environment for the wipes. The wipe container systems commonly include a latch or other mechanism to maintain the lid in a closed position. The wipes are placed within the container, where they can be accessed by either lifting the lid or removed through a hole within the lid. Conventional wipe container systems are often configured such that they can be refilled rather than replaced, minimizing the amount of refuse produced.

[0005] Traditional wipe container systems commonly use liquid impregnated wipes, which are a combination of a cloth or other absorbent carrier and a substance such as a cleansing solution. One advantage of an integrated wipe/solution system is the

elimination of the need to purchase and store both dry cloths and cleansing solutions. Other advantages include avoiding airborne or other hazards associated with spraying or applying a cleaner, avoiding mixing and measuring of cleaning solutions, and removing the need to clean a cloth after use. However, traditional wipe container systems do not provide a hermetic seal to prevent evaporation and contamination of the contents. As a result, the impregnated wipes deteriorate in quality due to evaporation during storage and become undesirable for use or sale.

[0006] The design of many conventional wipe container systems primarily focuses on allowing the consumer to easily and efficiently open the container and remove successive wipes using only one hand. However, these designs are often problematic in that they provide an ineffective seal when the lid is closed thereby magnifying evaporation or contamination of the wipes. Some manufacturers have attempted to overcome this problem by using a seal with an overlapping design wherein a section of the lid overlaps a section of the container when the lid is closed. In many cases this design is not continuous around the entire connection between the lid and container, resulting in a less effective seal. Containers which include multiple lids or openings utilizing these less effective seal designs only compound the potential evaporation and contamination problems by creating even more room for evaporation or contamination to occur.

[0007] Another problem with many traditional wipe containers occurs when the consumer does not realize that the container has not been closed correctly. If a lid is not closed properly the interface between the lid and container section will allow accelerated evaporation or contamination of the solution, potentially rendering the product useless for its intended purpose. A related problem is the need to manually deflect a portion of the lid to engage it with the container. This requires the use of both hands and also creates both closing and sealing problems.

[0008] To overcome the disadvantages and problems of existing wipe containers, it would be advantageous to provide an inexpensive and simple-to-use hermetic storage system capable of containing wipes that are at least partially saturated with a liquid solution in a hermetically sealed environment. The hermetic storage system may

advantageously be sealed and opened without manual deflection of the container or lid. Also, it would be advantageous to provide an inexpensive simple-to-use hermetic storage system capable of providing a hermetically sealed environment which can be manufactured in one piece. It would also be desirable to provide an inexpensive simple-to-use hermetic storage system capable of providing an audible indicator once a hermetic seal has been established. It would further be advantageous to provide a hermetic storage system capable of supporting at least one partially saturated wipe in a container that is flexible to enable the hermetic storage system to be more suitably stored in places of limited size such as pockets, purses, briefcases, backpacks, vehicle storage compartments, diaper bags and the like.

SUMMARY

[0009] A hermetic storage system for containing wipes is provided. The hermetic storage system includes a first member, a second member, and a flexible container configured for holding the wipes. As used herein when describing the container, “flexible” refers to a structure that does not substantially restrict the pliability of the container. For example, a flexible container is one that may be readily folded, crushed, bent, shaped, etc. without requiring substantial force from a user. The first member is coupled to an open end of the flexible container and defines an aperture. The first member and the second member may be engaged through a first connector and second connector. When engaged, the first member and the second member provide a hermetically sealed environment. As used herein “hermetic” and “hermetically” refer to an airtight or substantially airtight seal. For example, a substantially airtight seal may include a seal that retains at least 80% water weight over 28 days at 50°C and 60% relative humidity. The second member may be impermeable, or it may surround an aperture through which wipes may pass. As used herein “impermeable” means without an aperture, opening, or other means for a substance to pass through the second member. The wipes may be at least partially saturated with a liquid solution or it may be impregnated with a substantially dry substance, which may include soaps or other surfactants that can be activated when contacted with water.

[0010] The first member may have the first connector and the second member may include the second connector. The first connector may surround an aperture. The first connector can include one of a groove and a key and the second connector may include the other one of the groove and the key. The groove desirably includes a first peripheral wall and a second peripheral wall. Preferably, at least one of the first peripheral wall and second peripheral wall is flexible. The first peripheral wall includes a protrusion and an indentation. The key is configured to engage the groove. Generally, the key includes a lip, and at least a portion of the key has a width greater than the distance between the protrusion and the second peripheral wall. The first connector and the second connector may be releasably engaged by engaging the key and groove. Once engaged, the key and groove provide a hermetic seal as the key is positioned between the first and second peripheral walls surrounding the groove, and is closely adjacent to at least one of the first and second peripheral wall. Preferably, the key is contacting at least one of the first and second peripheral walls. To further effect the seal and provide a latching mechanism, the indentation may be configured to receive the lip.

[0011] Also provided is a hermetic storage system for containing one or more wipes that includes a flexible container, a first member and a second member. The first member is coupled to an open end of the flexible container and includes a peripheral edge surrounding an aperture. The peripheral edge may extend outwardly from the first member. An example of the peripheral edge is the key, and the peripheral edge may also include a lip. The aperture may allow access to the wipes when they are contained therein. The second member may be configured to allow the user to selectively engage the second member with the first member. When the second member is releasably engaged with the first member, the seal formed between the first member and the second member provides a hermetically sealed environment for the wipes. Generally, the second member includes two walls which form a groove for releasable engagement with the peripheral edge. The groove is defined by a first peripheral wall and a second peripheral wall, wherein at least one of the first peripheral wall and the second peripheral wall is flexible. The first peripheral wall may have an indentation and a protrusion that defines a distance between the

protrusion and the second peripheral wall that is less than the width of the peripheral edge (including lip, if any). The peripheral edge and groove form a continuous hermetic seal when the peripheral edge and groove are releasably engaged.

[0012] Additionally, provided is a hermetic storage system for containing wipes that includes a first member having a first and a second peripheral wall which define a groove. The first member is coupled to an open end of a flexible container. The groove surrounds an aperture which permits access to the wipes when within the flexible container. The hermetic storage system also includes a second member having a peripheral edge that includes a lip for releasable engagement with the groove. The first peripheral wall commonly includes an indentation and a protrusion that defines a distance between the protrusion and the second peripheral wall that is less than the width of the peripheral edge. At least one of the first peripheral wall and the second peripheral is flexible so that the lip may pass between the protrusion and the second peripheral wall and form a continuous hermetic seal when the peripheral edge and the groove are releasably engaged. Desirably, the first member and the second member are releasably engaged without manual deflection of either the first member or the second member. At least one of the first and second peripheral walls are preferably closely adjacent to the peripheral edge when the second member and the first member are in a releasably engaged, hermetically sealed position, and even more preferably at least one peripheral wall is contacting the peripheral edge.

[0013] In part, a hermetic storage system for containing wipes that includes a flexible containing means and a covering means for selectively enclosing the flexible container in a hermetically sealed position and an unsealed position is provided. The flexible containing means may be made of any flexible, impervious material. The flexible containing means may be in variety of shapes and configurations. For example, a common configuration includes cylindrical flexible containers having a single side wall extending from a base and forming an aperture opposite the base. Other configurations may include a flexible container with a plurality of flexible side walls hermetically coupled together and extending from a base and forming an aperture opposite the base. These flexible containers may be substantially

rectangular, square or other polygonal and shaped containers configured for holding the wipes. Other containing means may include one or more side walls extending between a first base and a second base, wherein at least one aperture is located in the first base. The flexible containing means may further include a first member coupled to an open end of the flexible containing means and having one of a first and second connector, which may surround the aperture.

[0014] The covering means may be at least one second member configured to selectively enclose the flexible containing means by releasably engaging the at least one aperture included in the first member coupled to the open end of the flexible containing means. The covering means may generally have the same shape as the first member and be configured to enclose the flexible containing means. The covering means may include the other of the first and second connector, which engages the connector of the first member to provide a hermetic seal. The covering means may also include a third member. For example, the covering means may include a second member which is configured to engage the connector surrounding the aperture of the first member coupled to the flexible containing means. The second member may also include at least one of a first and second connector that surrounds a second aperture. A third member having the other one of the first and second connector may be used to engage the connector of the second member and provide a hermetic seal between the second and third members.

[0015] The first connector may include one of a groove and a key, and the second connector may be the other of the groove and key. Generally, the flexible containing means includes one of the groove and key and the covering means includes the other one of the groove and the key. The groove and key may be selectively engaged to provide a hermetic seal between the flexible containing means and covering means. The groove is defined by a first peripheral wall and a second peripheral wall. The first peripheral wall may have an indentation and a protrusion. The key may have a lip which can adjoin the indentation of the groove when in the releasably engaged position. The key (including the lip) commonly has a width greater than the distance between the first and second peripheral wall. Desirably, at least one of the first

peripheral wall and the second peripheral wall is flexible to permit the key to pass between the protrusion and second peripheral wall without manually deflecting the second member or the first member. When engaged, the second peripheral wall is closely adjacent to the key, and more preferably, is contacting the key to provide the hermetic seal. The flexible containing means and covering means may have a plurality of grooves and keys corresponding to a plurality of apertures included therein to effect a hermetic seal.

[0016] The covering means can be coupled to or independent of the flexible containing means. When coupled, the flexible containing means and covering means may be integral with one another or attached to one another by an attachment means. The covering means may also be pivotally coupled to the flexible containing means. For example, the covering means may be coupled to the containing means by a living hinge or other known method of pivotally coupling the first member and the second member.

[0017] Also provided is a method for providing a hermetic storage system for wipes. Generally, the method includes providing a flexible container configured for holding the at least partially saturated wipes. The method further may include providing a first member and coupling the first member to an open end of the flexible container, the first member having a first connector surrounding an aperture. The method further may include providing a second member having a second connector. The second member may be impermeable or the second member may include at least one aperture. The first connector may have one of a groove and a key and the second connector may have the other one of the groove and the key. The groove preferably includes a first peripheral wall and a second peripheral wall and at least one of the first peripheral wall and the second peripheral wall is flexible. Generally, the first peripheral wall includes an indentation and a protrusion. The key has a width greater than the distance between the protrusion and the second peripheral wall. The first connector and the second connector may be releasably engaged to provide a hermetic seal. The method may further include inserting wipes within the flexible container. The wipes may be at least partially saturated with a liquid solution. Alternatively, the

wipes may be impregnated with a substance having a relatively dry feel. Upon inserting the wipes, the second member may be engaged with the first member to provide a hermetic seal.

[0018] The hermetic storage system herein disclosed may also include a sealing member that can be used to cover the aperture used to access the wipes. The sealing member may be removed upon first use. The sealing member may also be resealable after removal. Examples of sealing members may include a foil or film, which may be constructed from plastic, metal, or laminates thereof. Other exemplary embodiments, apparent to those skilled in the art, may also include a hermetic storage system with more than two apertures wherein each aperture has a corresponding member configured to effect a hermetic seal in accordance with the key and groove configurations disclosed herein. For instance, the member may surround an additional aperture wherein the member is configured to releasably engage a lid or other member using the key and groove configuration described herein to create a hermetic seal.

[0019] A further understanding of the nature and advantages of the hermetic storage system disclosed herein may be realized by reference to the remaining portions of the specification and the drawings. It is to be understood that the invention is not limited in its application to the details of construction and the arrangements of components set forth in the following description or illustrated in the drawings.

DESCRIPTION OF THE DRAWINGS

[0020] FIGURE 1 is a perspective view of a hermetic storage system in an open configuration in accordance with the teachings of the present application;

[0021] FIGURE 2 is a cross-sectional view of a connector in the form of a key in accordance with the teachings of the present application;

[0022] FIGURE 3 is a cross-sectional view of a connector in the form of a groove in accordance with the teachings of the present application;

[0023] FIGURE 4 is a cross-sectional view of the hermetic seal that is created when the key and groove are releasably engaged as shown in FIGURE 5;

[0024] FIGURE 5 is a plan view of the hermetic storage system in a releasably engaged position in accordance with the teachings of the present application;

[0025] FIGURE 6 is a perspective view of an alternative embodiment of a hermetic storage system in an open position in accordance with the teachings of the present application;

[0026] FIGURE 7 is a plan view of the hermetic storage system shown in FIGURE 6 in a releasably engaged position; and

[0027] FIGURE 8 is a cross-sectional view of the hermetic seal that is created when the second member and third member are releasably engaged as shown in FIGURE 7.

DETAILED DESCRIPTION

[0028] With reference to all FIGURES, shown are the preferred embodiments of a hermetic storage system 41 in accordance with the present application. The hermetic storage system 41 may contain wipes. The wipes may be at least partially saturated with a liquid solution. The liquid solution may be an aqueous, non-aqueous, volatile or non-volatile solution. Such solutions may be used for moisturizing and/or cleansing. Alternatively, the wipes may be impregnated with a substance that is relatively dry. For example, the wipes may be impregnated with surfactants or with paraffin.

[0029] Referring to FIGURE 1, the hermetic storage system 41 generally includes a flexible container 43, a first member 42, and a second member 32. The flexible container 43 includes a open first end 34 and a closed second end 36. The flexible container 43 surrounds an aperture 45 and may be configured to hold one or more wipes. The flexible container 43 is preferably made from an impervious, flexible film material such as Polypropylene (PP) or Linear Low-Density Polyethylene (LLDPE). As used herein “impervious” refers to a material that is substantially incapable of being undesirably penetrated by a substance being contained by the flexible container

or by a potential contaminating substance existing outside the flexible container. The impervious material may be configured to minimize the penetration of a variety of substances including, but not limited to, aqueous substances, alcohols, solvents, surfactants, fragrances, silicones, etc. As can be appreciated, other suitable flexible materials, including composites, can be used where specific barrier properties are required for the substance that is being contained. In another embodiment, the flexible material has elastic properties enabling the flexible container to conform to the wipes disposed within the container.

[0030] According to one embodiment, the flexible container 43 may be a seamless flexible container that surrounds the aperture 45 and is configured to hold one or more wipes. According to another embodiment, the flexible container 43 may be a flexible container made of a plurality of flexible walls that are hermetically coupled together to surround the aperture 45 and configured to hold one or more wipes. The plurality of flexible walls may be hermetically coupled together through the use of adhesives, heat sealing, welding, or any other generally known method for providing a hermetic seal. According to a further embodiment, the flexible container 43 may be made of a single sheet of flexible material that is manipulated to define the aperture 45. For example, a flexible container may be formed by manipulating a single sheet of flexible material into a cylindrical container having a circular cross section and hermetically coupling the sheet together. As can be appreciated, the flexible container 43 may be configured in a wide variety of shapes to accommodate the wipes including, but not limited to, rectangular, polygonal, triangular, octagonal, spherical, etc.

[0031] The first member 42 may be configured to couple to the open first end 34 of the flexible container 43. The first member 42 may be permanently coupled to the flexible container 43 or may be detachably coupled to the flexible container 43. The first member 42 is coupled to the flexible container 43 in a manner sufficient to maintain a hermetic seal between the flexible container 43 and the first member 42. The flexible container 43 may be coupled to the first member 42 using mechanical fasteners, adhesive, heat sealing, welding, or any other generally known method of

coupling. According to one embodiment, the first member 42 may be a flange or a collar that defines an aperture 45 as illustrated in FIGURE 1. In another embodiment, the first member may be a flange or collar that includes a base or a platform that defines an aperture 45.

[0032] The second member 32 may be configured to cover the aperture 45 and enclose the wipes when within the first member 42 and the flexible container 43. The second member 32 may be independent from the first member 42 or coupled with the first member 42. The second member 32 can be coupled to the first member 42 by being integral with the first member 42 or attached to the first member 42 through an attaching means 44. In the preferred embodiment, the second member 32 may be pivotally coupled to the first member 42 by a living hinge or other equivalent methods or pivotally coupling mechanisms known to those skilled in the art. The second member 32 may be impermeable as shown in FIGURES 1 and 5 or may include at least one aperture 38 as shown in FIGURES 6-7.

[0033] The hermetic storage system 41 may further include an opening mechanism 47 to facilitate engaging and disengaging the second member 32 with the first member 42. The opening mechanism 47 may be a latch, lever, switch, handle, or other means to facilitate engagement or disengagement of the second member 32 and the first member 42. The opening mechanism 47 may be coupled to the first member 42 or the second member 32. For example, a tab-like design may be utilized to allow the consumer to disengage the second member 32 from the first member 42 using only one hand by exerting opposite forces on the first member 42 and second member 32. Hermetic storage system 41 may also include a latching or locking mechanism, however, a latching or locking mechanism is unnecessary to ensure the second member 32 and the first member 42 remain configured in a releasably engaged position. Additionally, the hermetic storage system 41 may also include an element for keeping the second member 32 and the first member 42 configured in an open position once opened by the consumer.

[0034] To establish a hermetically sealed environment, the first member 42 may provide a first connector 10 or a second connector 11 as most clearly shown in

FIGURES 2-4. The first connector 10 may be in the form of a peripheral edge, such as a key 18 as depicted in FIGURE 2. In other embodiments, the first connector 10 may also be in the form of a groove 13 as depicted in FIGURE 3. The second connector 11 may be the other of the key 18 or groove 13. The key 18 may be configured to releasably engage the groove 13 when the second member 32 and the first member 42 are placed in the closed position. When engaged, the key 18 and groove 13 form a hermetic seal continuously about the aperture 45 as depicted in FIGURE 4. The first member 42 may include the key 18 and the second member 32 the groove 13 to effect the seal. In an alternative embodiment the first member 42 may provide the groove 13 and the second member 32 may provide the key 18.

[0035] In FIGURE 2, the first connector 10 in the form of the key 18 is shown. The key 18 may include a lip 21, which can be located at the distal end of key 18 as shown or intermediate the key 18. A portion of the key 18 has a width 19. Generally the width 19 can be provided by including the lip 21. The lip 21 may include a rounded curvilinear edge extending from the key 18 as shown in FIGURE 2. Alternatively the lip 21 may be comprised of a section with linear edges to form triangular, rectangular, or other polygonal shape, or may be configured in a variety of shapes combining both linear and nonlinear edges. In another embodiment the lip 21 may be formed by removing a portion of the key between its distal edge and the first member 42 or the second member 32 to which the key 18 is coupled resulting in a lip 21 that does not bulge outward from the key 18.

[0036] Referring to FIGURE 3, the second connector 11 in the form of the groove 13 is shown. The groove 13 is defined by a first peripheral wall 14 and a second peripheral wall 15. The first peripheral wall 14 may include an indentation 16 and a protrusion 17. The protrusion 17 and second peripheral wall 15 define a distance 20. Generally, the distance 20 is no greater than the width 19 of the key 18, and in the preferred embodiment the distance 20 is slightly less than the width 19 of the key 18. Most desirably, the distance 20 is determined between the protrusion 17 and the second peripheral wall 15 of the groove 13. In the preferred embodiment, the second peripheral wall 15 is flexible to allow the key 18 to releasably engage the groove 13.

A flexible second peripheral wall also facilitates engagement of the key 18 and groove 13 without manual deflection of the second member 32 or the first member 42. The second peripheral wall 15 may also include a chamfered edge to facilitate engagement of the key 18. In alternative embodiments either one or both of the first peripheral wall 14 and second peripheral wall 15 may be flexible to allow the key 18 to releasably engage the groove 13.

[0037] FIGURE 4 shows a cross-sectional view of the hermetic seal when the first connector 10 and second connector 11 are releasably engaged as illustrated in FIGURE 5. The first connector 10 is shown including the key 18 and the second connector 11 is shown including the groove 13, however, the first connector 10 may include the groove 13 and the second connector 11 may include the key 18. When the hermetic storage system 41 is placed in the closed position the second connector 11 becomes releasably engaged with the first connector 10. During engagement, the lip 21 of the key 18 passes between the first peripheral wall 14 and second peripheral wall 15. The second peripheral wall 15 is flexible to facilitate releasable engagement of the key 18 and the groove 13 by allowing the lip 21 of the key 18 to pass between the protrusion 17 and the second peripheral wall 15. Once the key 18 is releasably engaged with the groove 13, the lip 21 may be adjacent to the indentation 16 and the key 18 may be closely adjacent to at least one of the first peripheral wall 14 and second peripheral wall 15 to effect the hermetic seal between the first member 42 and the second member 32. Desirably, the key 18 is in contact with at least one of the first peripheral wall 14 and second peripheral wall 15. When the key 18 and the groove 13 are releasably engaged, the peripheral wall 15 and key 18 interact to provide a hermetic seal and hermetic environment for the wipes. The lip 21 and protrusion 17 also interact to maintain the hermetic storage system 41 in a releasably engaged configuration. Although the preferred embodiment is shown, variations are possible without departing from the spirit and scope of the specification and claims. For instance the second peripheral wall 15 may include the indentation 16 and protrusion 17. Alternatively, the lip 21 may be positioned such that it is closely adjacent to the indentation 16 when the first connector 10 and second connector 11 are releasably engaged. A number of different configurations that include the key 18, groove 13,

indentation 16, protrusion 17, lip 21, or a plurality of one or more of the elements previously described may be conceived to achieve the hermetic seal without departing from the spirit and scope of the specification and claims.

[0038] FIGURES 6-7 illustrate a hermetic storage system 41 having a generally rectangular cross section. Radius 12 is configured such that when the second member 32 is engaged with the first member 42 the hermetic seal minimizes evaporation or contamination of the contents in hermetic storage system 41. For example, in one embodiment, radius 12 may be no less than 0.2 inches, and more preferably no less than 0.4 inches. The radius 12 desirably is of a length to permit the second member 32 and the first member 42 to engage in the closed position, while maintaining the hermetic seal.

[0039] Referring to FIGURES 6, 7 and 8, an alternative embodiment of a hermetic storage system 41 having a flexible container 43 having an open first end 34 and a closed second end 36, a first member 42 coupled to the open first end 34 and defining an aperture 45, a second member 32 covering the aperture 45 and having a second aperture 38, and a third member 25 covering the second aperture 38 is shown. The second member 32 may be configured with a first connector or second connector as described in the preferred embodiment and releasably engaged with the first member 42 to provide a hermetic seal, or it may be snap-fit with the first member 42 or welded with the first member 42 to provide a hermetic seal. The second member 32 may be coupled to the first member 42 or may be independent from the first member 42.

[0040] Generally, the second member 32 includes one of the key 18 and the groove 13 which surrounds the second aperture 38. The third member 25 includes the other one of the key 18 and the groove 13. The third member 25 and second member 32 may be selectively placed in the closed position to releasably engage the key 18 and groove 13 to effect a hermetic seal as shown in FIGURES 7-8. In FIGURE 8, the third member 25 including a groove 13 and the second member 32 including a key 18 are shown. The hermetic storage system 41 may include a plurality of apertures and corresponding cover members wherein each associated aperture and cover member is configured with the key 18 and groove 13 configuration disclosed herein to provide a

hermetically sealed environment for the at least partially saturated wipes without departing from the spirit or scope of the specification and claims. For instance, the second member 32 of the hermetic storage system 41 shown in FIGURES 1-5 may surround an aperture 45 as shown in FIGURES 6-8 or, alternatively, the second member 32 of FIGURES 6-8 may be permanently connected to the first member 42 by weld, snap-fit, integrally formed, or other similar sort of sealing process or mechanism known to those skilled in the art.

[0041] Although the invention has been described with reference to the preferred embodiments illustrated in the attached drawing figures, it is noted that equivalents may be employed and modifications, variations, or substitutions may be made herein without departing from the scope or spirit of the invention as recited in the specification and claims. Additionally, it will be understood by those skilled in the art that although the hermetic storage system disclosed herein has been described for use with the wipes, it may also be used with similar natural and synthetic products susceptible to evaporation or contamination which include but are not limited to: swabs, cloths, pads, cloth-like, chamois, porous materials, and any equivalents thereof. Likewise, it will be understood by those skilled in the art that any one of the aforementioned items or their equivalents may be at least partially saturated or impregnated with any number of substances susceptible to contamination or evaporation including but not limited to: saline solutions, alcohol, hydrocarbon and aqueous solutions, polishes, waxes, nonconductive and anti-static substances, resins, and other substances intended for a variety of uses including but not limited to cleaning, disinfecting, antibacterial, germicidal, anti-microbial, moisturizing and conditioning, dissolving and equivalents thereof.

[0042] Further, it will be understood by those skilled in the art that the hermetic storage system disclosed herein will be useful for storing materials that are not at least partially saturated or impregnated with one or more substances but are free from such substances where to be used effectively the materials must remain free from contamination or moisture. For instance, the hermetic storage system disclosed herein would be useful for storing various clean, at least partially sterilized and dry items to

prevent contaminants and moisture from entering.